SECURITIES OF PUBLIC SERVICE CORPORATIONS AS INVESTMENTS

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Next to railroads and manufacturing corporations, the class of companies commonly known as public service corporations represent a larger amount of invested capital than any other class of private corporations. The Public Service Corporation is so called because it operates under a charter or franchise usually granted by the municipality, which authorizes the corporation to use the public streets for the purposes of its business, and which subjects the company in various ways in the conduct of its affairs to the control and authority of the public power. These companies are electric railways, gas, electric lighting and water companies. Since the business of supplying water has been mainly taken over by the municipal governments, we shall limit our discussion of public service corporations to the three classes first mentioned, and shall pay especial attention to the securities of street railway companies.

The most important difference between public service corporations and other industrial companies consists in the franchise. This may be either exclusive or non-exclusive. If exclusive it is more valuable, although, practically speaking, even if its franchise is not exclusive, a company may be secure in the control of its territory because of physical conditions which may render its position impregnable. The exclusive franchise is more important in the case of an electric lighting property than in the case of gas or electric railway companies, for the reason that there is more opportunity for competition in that business than in the others. A street railway may have a non-exclusive franchise that is practically exclusive because of its occupancy of all the streets on which a railway could be built, but an electric lighting plant is always open to an invasion of its territory. It is also generally true that the required investment in an

electric road is larger than in the case of an electric lighting plant, and where an operating lighting company is doing a good business every inducement is offered for the formation of a rival concern, which can install a new plant for a few thousand dollars and invade the territory of the older company with lower operating expenses. Gas companies, on the other hand, are more frequently operating under exclusive franchises than are the electric lighting companies. They are generally older and began operations at a time when exclusive franchises were frequently granted, while the electric lighting companies, having been for the most part chartered within the last twenty years, show the modern tendency to limit the scope and duration of corporate grants.

The consequences of competition in the lighting field are frequently disastrous. About five years ago there was a consolidation, as the result of competition, of three electric lighting plants and one gas plant in a Pennsylvania town of about 20,000 inhabitants. The securities of these four companies were all somewhat watered, and more water was put in to the capital of the company formed to control and operate them. The fixed charges were, however, regularly paid, as well as a dividend of 5 per cent. per annum on the stock. The total capital and bonded debt of the parent and underlying companies amounted to about $500,000, far in excess of cost. Two years later a company was organized, to operate in the same field with a capital of $100,000 with which they were able to install a modern plant. They were able to operate more cheaply and reduced their rates, the reductions being met by the older concern. Within six months the lower rates forced the older company to suspend dividends and to meet its interest charges out of its surplus. The new company, however, was able to do business at a profit and soon began the payment of 5 per cent. dividends. In larger cities the chance of such competition as the foregoing is, of course, less. In Philadelphia, for example, the Philadelphia Electric Company has a practical monopoly of the electric lighting business, although there is another company (The Keystone Telephone Company) which has a franchise to light any part of the city. Another important consideration regarding franchises is their period. If they are perpetual the bondholder need not concern himself with the duration. If for a limited term, their term should be compared with the life of the bond. It may be stated generally that no bond can be con-

sidered safe unless it matures before the expiration of the franchises of the issuing company. As above remarked, perpetual franchises are now seldom granted. In Pennsylvania no company can be organized under a perpetual charter. In Ohio and Indiana there are laws limiting the time for which the franchises can be granted, and in one state in the Union it is certain that a considerable number of railways are operating under franchises which were not granted in accordance with the laws of that state. The present tendency is to grant franchises to electric railways, gas and electric lighting properties for a period of from twenty to forty years. In Massachusetts a commission is empowered to fix the amount of stock and bonds of every such corporation in the state, as well as to fix prices of fares to be charged. This power of the commissioners was upheld in the recent decision in the Massachusetts Supreme Court in the case of Keefe *vs.* The Lexington and Boston Street Railway Company, in which the Court decided that the right to regulate street railway fares rests solely with the Legislature, acting through the commissioners. In Ohio a bill to create a state Public Service Board has been introduced in the State Legislature which provides that the board shall have power to grant franchises, regulate fares and other charges, and authorize the construction, maintenance and operation of public service plants. The effect of the Massachusetts law has resulted in many cases in the public service corporations having a large floating indebtedness, because, as stated before, the issuing of bonds must be passed upon by the commissioners.

The most prominent case in the country at the present time involving the duration of franchises is the Chicago case. The issue there hinges on an interpretation of an act of the Illinois Legislature, passed in 1865, by which, as the companies claim, the franchises as well as the charters of the existing street railways in Chicago were extended ninety-nine years. The contention of the city is that the act was not so intended, and if it was so intended, that the portion of it extending the franchises would be unconstitutional, as—although the act extended the corporate life of the company, and therefore authorized the city to grant it franchises during its corporate life—the power of granting specific franchises was still left with the city. The city has offered to grant an extension of franchises for a period of years if the company will waive any rights which it has under the act of Legislature, and will pay a certain per-

centage of its gross receipts to the city. The matter has not yet been settled as the company is reluctant to waive such rights, and on March 14th of this year the City Council again postponed final decision by granting an extension until January, 1905.

The bondholder, having his legal rights under a mortgage, should satisfy himself that the property is worth the amount of the mortgage, so that in the event of a foreclosure his interest will be protected and the principal of his bonds paid. In Massachusetts a public service corporation can only be bonded for 50 per cent. of its capital; that is, if the bonded debt amounts to $1,000,000 there must be at least $1,000,000 in cash actually paid on the stock. In most of the states there are no such provisions, and the investor must consider each proposition by itself to determine the security of his bonds. In many instances street railways are bonded for the cost of the property, and the stock is issued with reference to anticipated profits. The bonds of a company so mortgaged may be a fairly safe investment where the earnings and the prospects of the company are favorable. In numerous instances 10 per cent. in cash is paid on the stock, and where this is done there is an equity for the bondholders in the case of a default being made on interest and a consequent foreclosure.

The next consideration in determining the security of a bond is the question of earnings. Where a company is earning no more than its fixed charges, including interest, taxes and guaranteed rentals, its bonds would not be considered investment securities. Where the net earnings exceed the fixed charges by 50 per cent., and the prospects of the company are good, the bond may be considered reasonably safe. Where net earnings exceed fixed charges by 100 per cent. the bond may be, generally speaking, considered entirely secure. These general rules are, however, subject to exceptions. Although there may be a large surplus over fixed charges, if the proper amount has not been spent for maintenance of the property, the "net earnings" are fictitious, and the bondholder is in no better position than although the company had laid aside a proper amount for depreciation and had no excess of earnings. On the other hand, where there is but a small excess of earnings, the securities of the company may be very attractive, as where a recently organized concern is under able management, with good prospects for increasing business.

The income of street and electric railways in the United States

in 1902 amounted to $247,553,999. Of this income, the receipts from passengers amounted to 94.5 per cent.; from chartered cars, $^1/_{10}$ of 1 per cent.; from freight, $^4/_{10}$ of 1 per cent.; from mail, $^2/_{10}$ of 1 per cent.; from express, $^2/_{10}$ of 1 per cent.; from sale of electric current, 3.1 per cent., and from miscellaneous sources, 1.5 per cent. The percentage of operating expenses to gross earnings was 64.4 per cent. in 1890 and 57.7 per cent. in 1902. Of these operating expenses, maintenance of ways and structures cost 8.5 per cent. of the total, maintenance of equipment 11.7 per cent., operation of power plant 16.2 per cent., operation of cars 43.9 per cent., general expenses (including salaries, etc.) 19.7 per cent. These figures are of interest in their application to any special property as showing whether or not its operation is above or below such average. During 1902 there was an average rate of 5.1 per cent. paid on the stock of all companies which paid dividends, but on about one-half of the stock issued there were no dividends paid. Of taxes and fixed charges the interest on funded debt amounted to 45.4 per cent. and the rental of leased lines 32.9 per cent. The figures which are here given regarding electric railways have been compiled from the census reports, and the different items constituting operating expenses have been given in the percentage which they bear to the total expenses. As a matter of practice, the reports of the street railway companies are made up showing the percentages which each item of operating expenses bears to the gross earnings. The report of the New York State Board of Railroad Commissioners for the year ending June 30, 1903, shows the percentages of subdivision of operating expenses in New York both in their relation to total operating expenses and to gross earnings. They are as follows: To total operating expenses, maintenance of way and structure, 6.92 per cent.; maintenance of equipment, 10.29 per cent.; operation of power plant, 16.33 per cent.; operation of cars, 48.74 per cent.; general expenses, 17.72 per cent. In their relation to gross earnings they are as follows: Maintenance of way and structures, 3.99 per cent.; maintenance of equipment, 5.94 per cent.; operation of power plant, 9.42 per cent.; operation of cars, 28.13 per cent.; general expenses, 10.22 per cent.; making the total operating expenses 57.7 per cent. of the gross earnings.

In comparing the operation of city lines with interurban lines, it will be found that the principal differences in cost occur in operation of power and operation of cars. Cost of power is proportionately

less in city systems, owing to the greater economy in furnishing it from one central plant. On the other hand, cost of operating cars will be found less on the interurban line in proportion to gross receipts, owing to the fact that cars are generally larger, carry more passengers and operate at higher speed, with consequent larger receipts earned in any given time since the platform expenses—motormen's and conductors' wages—being practically the same per hour as on the city system. The total operating expenses of interurban lines in proportion to gross receipts average somewhat less than the operating expenses of city systems, showing the smaller operation of car cost to be a greater factor than the savings of the city lines from economical operation of power.

The value of gas products in 1902 was $75,716,693, to produce which involved an outlay of $5,273,900 for salaries of officials, clerks, etc.; $12,436,296 for wages; $14,769,022 for miscellaneous expenses, including rent, taxes, etc., and $20,605,356 for materials used; namely, supplies, freight and fuel. Of the cost of materials coal cost 34.8 per cent. of the total, coke 3.5 per cent., oil 39.6 per cent., water 1 per cent., fuel 5.3 per cent., mill supplies $^{7}/_{10}$ of 1 per cent., all other materials 11.6 per cent. and freight 3.5 per cent.

The total capital stock of the electric lighting companies in 1902 amounted to $372,951,952. Of this amount 6.4 per cent. was preferred stock and 93.6 per cent. common stock. Dividends at an average rate of 4.4 per cent. were paid on 36.2 per cent. of the common stock and at an average rate of 5.2 per cent. on 51.1 per cent. of the preferred stock. The total income of the electric lighting properties was $85,700,605, of which 91.9 per cent. was from private stations and 8.1 per cent. from municipal stations. In the private stations arc lighting contributed 28.1 per cent. of the total, incandescent lighting 52.4 per cent., other electric services 17.7 per cent. and all other sources 1.8 per cent. The municipal stations received 48.7 per cent. from arc lighting, 48.2 per cent. from incandescent lighting, 1.3 per cent. from electric services and 1.8 from all other sources. The total expenses of electric lighting stations were $68,081,373, or 79 per cent. of the gross income. Of this amount the private stations paid as salaries and wages 29.9 per cent.; for supplies, materials and fuel 32.6 per cent.; for rent, taxes, insurance and miscellaneous 18.2 per cent., and for interest on bonds 19.3 per cent. The municipal stations paid for salaries and wages 35.8 per

cent.; for supplies, materials and fuel 46.2 per cent.; for rents, taxes, insurance and miscellaneous 8.4 per cent., and for interest on bonds 9.6 per cent. It will be seen that there is a considerable difference between private and municipal stations in the expense account, as in many cases the municipal stations failed to report rents, etc., because they were included in general accounts for public work, while the proportion expended for salaries, wages, supplies, etc., is greater. The statistics as to line construction are interesting, showing the overhead construction to amount to 101,383 miles and the underground construction 5,847 miles.

In a country with a growing population there is reason to believe that the earnings of street railway, gas and electric lighting properties will increase from year to year. The population of the United States, if the ratio of increase is maintained, will double within the next fifty years, and will even then show a density of from but one-fifth to one-seventh of that of European countries. The gross earnings of 445 electric railways for periods ending different months in the year 1903, show an increase of 10.45 per cent. over corresponding periods of the previous year, and the net earnings show an increase of 7.77 per cent. These average figures have, of course, been exceeded in various parts of the country where the introduction of the trolley has been comparatively recent, and where the population has been increasing at a ratio above the average. For instance, the Indianapolis Traction and Terminal Company, which controls the street railway lines in Indianapolis, reports that the gross earnings in 1902 increased about 15 per cent. over those of 1901, and for 1903 about 15 per cent. over those of 1902. Where a bond has been purchased in a company with earnings of 50 per cent. in excess of fixed charges, the security may be regarded as fairly satisfactory, even although there be no prospect of this surplus being increased, but in many instances companies have been financed with requirements which increase each year. The Public Service Corporation of New Jersey—a company organized for the purpose of operating and controlling street railway, gas and electric lighting properties in that state—has leased a considerable number of properties, the rental for which is to increase annually. Leases on these properties have been obtained, in exchange for which the Public Service Corporation has given guarantees on their stock of from 1 per cent. to 3½ per cent. the first year, up to 5 per cent. and 8 per cent. the ninth year and thereafter.

It is possible to estimate with accuracy, from population and general conditions, what the earnings of a prospective railway, gas or electric plant will be during the first year of operation, and how those earnings will increase from year to year. The United Gas Improvement Company of Philadelphia, for example, upon obtaining control of a property, generally reduces the price of gas, and from its long and thorough experience in the management of gas properties can estimate the extent to which this reduction will increase the output, taking into consideration the population of the territory and its ratio of increase. Good management can always swell the earnings of a property which has been before improperly managed, and many economies can be effected and policies adopted which will increase the earnings of the concern even though prices be reduced. The same considerations are applicable to street railway properties. The running of interurban cars on a half-hour schedule may or may not be a proper method of operation in a certain locality. It is frequently found that where cars have been so operated the changing of a schedule to a fifteen-minute one has resulted in considerable increase of earnings, since it is a fundamental principle of transportation that facility will create travel, and while the operating expenses are only slightly increased by the addition of a few cars, the added revenue from those cars may be almost entirely net profit. Furthermore, under a consolidation of properties such as has taken place in New Jersey under the management of the Public Service Corporation, a reduction in general expenses and in cost of operation, results in an increase of earnings which enables dividends to be paid on stocks on which there would otherwise be no return for years.

One of the most noteworthy examples of what good management will do for the earnings of a company has been shown by the United Gas Improvement Company of Philadelphia. Since that company leased the gas works from the city of Philadelphia it has paid 8 per cent. dividends on its shares of stock and has saved that city $765,000 per annum. For the four years before the United Gas Improvement Company obtained control of the city property, and while the plant was under city management, the net annual surplus amounted to only $136,000. The rental of offices was not included in these figures, and it is found that when such rental, as carefully compiled from official documents, is deducted, this net sur-

plus is changed into an annual deficit of about $240,000. Under the management of the United Gas Improvement Company, the city has received an average yearly net revenue from the company of about $390,000, as it is given 10 per cent. of the gross revenue from the sale of gas in Philadelphia. The United Gas Improvement Company has besides spent for betterments about $134,000 per annum more than the city. These items of an increase in the amount expended for betterment, percentage of gross revenue paid to the city and deficit under the city control show a gain of $765,000 per annum to the city by United Gas Improvement Company management.

Another important consideration which the prospective bond purchaser in a street railway, gas or electric lighting company must have in mind is the possibility of maintaining fares and rates. It is desirable that the company operating under a franchise from a city have a contract with that city fixing rates so that the earnings of the company can be more certainly estimated. In the absence of such a contract there is a possibility of forced reductions. When the United Gas Improvement Company leased the gas works of Philadelphia the price of gas was fixed at a net rate of 90 cents per thousand cubic feet for ten years, to be reduced in 1908 to 85 cents for five years, in 1913 to 80 cents for five years and in 1918 to 75 cents. When eastern capital was first invested in the trolley lines of western states, there was considerable difficulty between operating companies and the cities in which they operated, as in some instances the latter attempted to force a reduction in fares to be charged. In consequence of such a dispute, the Indianapolis Street Railway Company, when it acquired its franchise from the city of Indianapolis for thirty-four years in 1899, obtained a contract by which the regular fare was to be 5 cents with free transfers, and tickets were to be sold six for 25 cents or twenty-five for $1, and in consideration of this agreement the company bound itself to pay a certain sum yearly to the city.

The most prominent case at the present time involving a forcible reduction of fares is that of the one in Cleveland, Ohio. An ordinance has been passed in the City Councils fixing the rate of fare on street railways operating within the central portion of the city at 3 cents with free transfers, and providing that the city may purchase the property at any time, the price to be fixed by a Board of Arbitration. A long controversy between the city and the com-

pany over the expiration of the company's franchises has resulted and the difficulties there have not yet been concluded. If the ordinance stands the result will be that about 85 per cent. of the residents of Cleveland will only have to pay a fare of 3 cents. Prominent street railway men believe that this reduction will result in such a loss in gross earnings as to destroy the profits of the company. Unless the company will accept the plan it will not be given the desired twenty-year franchise by the present Councils, and although it has provisionally adopted it, it has not yet definitely and legally done so, and if it is found to be unsatisfactory to the company, more litigation is probable.

In the operation of interurban lines, the average fare throughout the United Staes is 1.3 cents per mile, although many lines operate profitably at 1 cent per mile. Below this rate, the operating expenses are apt to be too large in proportion to gross receipts to make profitable returns, while above 1.5 cents per mile the rate approximates steam railroad conditions too closely to develop the heavy travel which justifies frequent electric railway service. The concentration of generating power at some one point operating a number of motor units over an extended system is the attractive feature of an electric railway as compared with the steam railroad, but unless there is sufficient population to justify frequent service a given territory can scarcely be said to afford an electric railway enterprise.

The tendency of interurban lines recently constructed has been to build them on private right of way when possible. Although the original cost is greater, there are a considerable number of reasons for so building them. The greater speed saves the passengers time and is an inducement to travel which is specially noteworthy where the private right of way runs through city limits. The slow trailing behind the city trolley cars and wagons is avoided, and the company is not subject to municipal speed restrictions. The private right of way is also important from the operating standpoint. The expenses of handling given traffic will be less, since there is no paving to maintain and the expenditure on maintenance of track, bridges and tie renewal is less because of the lack of wear and tear of extraneous traffic. The greater speed on a private right of way will not only make the service more reliable, but also decreases the accident and legal expenses, and has many other advantages. It will be

thus seen that a road operating over its own right of way will have a lower operating ratio, and will in consequence have a larger surplus over fixed charges, provided that the securing of the right of way has not been so expensive as to make the amount of the bonded indebtedness too large. It is a problem with every prospective street railway, gas and electric lighting company as to how much can be safely spent for buildings, plant, trackage, wiring, etc., as it is, of course, possible to make these so expensive that the company will be unable to earn anything in excess of the interest on the money so spent. On the other hand, there are many improvements every year which are not only desirable from the standpoint of creating traffic, but also in order to enable the company to operate at a lower ratio. This is forcibly shown in the decrease of the operating expenses in street railway properties from 64.4 per cent. in 1890 to 57.5 per cent. in 1902.

We have so far dealt mainly with those companies which are in operation. In many instances investors are asked to purchase bonds in companies not in operation, where earnings are apparently problematical. The science of street railway, gas and electric lighting properties is, however, so complete and exact that it is usually possible to estimate what the earnings of such companies will be. There are very few cases where lines intelligently established have been unsuccessful. Many considerations must be taken into account, but where the knowledge of the business is supplemented by common sense, such investments are usually secure. Just as the life insurance company calculates its financial returns with the utmost confidence from the average life of humanity, so each inhabitant of any given community has been found to reward with a certain number of dollars per annum the electric company serving him. Electric railway territory must be divided into the local system in the town of 10,000 population and the city of 100,000 to 1,000,000 population, and the average earnings per capita determined in each. Factors of calculation must be used intelligently in each case. The shape of the city, whether elongated, circular or compact, must be considered. as must also the character of its population, their residence location with reference to places of employment, and the relative prosperity. Calculations of suburban and interurban earnings are more complex, being dependent in addition to the above conditions on the number of the local populations along the line and the distance from the terminal

cities to where they are tributary, rather than upon the exact size of the terminal cities. To develop a maximum of earnings per capita from the local population along the line, the terminal city should be several times larger than the local towns and villages, so that the latter are in the fullest sense commercially tributary. The question of franchises, equity in the property and rights of way must also be considered by the prospective buyer of a bond of a company not in operation.

The problem of the organizers of such a company is the same as that of the investors if they are going to stand by the property, but sometimes concerns are organized during speculative booms merely for stock jobbing purposes, and where suspicion of good faith exists the closest scrutiny is necessary. A road may be so cheaply built that in the course of a few years the power plant and equipment will be worn out, and the bondholders will find their property in the hands of a receiver. If proper attention has been given to these matters, the main things to be considered are the population of the territory and the activity of that population. If the line is to be built through a country where there is but little industrial or farming population which travels, the earnings, of course, will not be so great as in the case where the line is to be constructed through a territory having a similar population which is continually traveling between the different points. Investors are frequently found who will not put their money in the bonds of a company which operates in a community depending upon any one industry, as in the coal regions in Pennsylvania, where in the event of a strike the earnings must necessarily fall off considerably. Where the road is built along the bank of a river it can in some instances only draw from the population on that side, and unless that population is double per mile of road than ordinarily required the line can hardly be a success.

Another class of electric railway companies which have frequently been found unprofitable are those operating during a portion of the year only, although there are, of course, a large number of lines which are paying satisfactory returns to the stockholders which are dependent for their earnings entirely upon the summer season, such as those running to parks and summer resorts having a large patronage. Unless the traffic is unusually heavy during the summer these roads will naturally not pay, as if they operate for only six months in the year, they must do twice the business which would

ordinarily have to be done in a year in order to meet the charges on the capital invested. A number of such companies operating their cars during the entire year, operate at a loss during the winter months, so that during the summer season not only do they have to do a double business, but have also to make up a deficit.

In some localities it has been found possible to use nearby water power. This generally results in reducing operating cost where the water power can be depended on for the entire year. Where it must be supplemented by a steam power plant to be used during the dry season, there is a double investment on which interest charges must be earned, and which cannot generally pay, even although the operating expenses are reduced for a considerable period of the year. When there is a continuous flow of water, however, water power is very desirable. Not only is the normal cost of fuel avoided, but the operating company is not subject to any sudden advance in prices as the result of a fuel famine. It is difficult to compare the costs of producing electricity by means of coal and water power. The price of coal is a variable quantity, and the result of the comparison depends also upon the amount of the investment in the power plant, which must necessarily vary according to the amount of dam and canal building required. In many instances, however, manufacturers and electric railway and lighting companies have been supplied with power costing them but from 50 per cent. to 75 per cent. of the cost of producing it themselves by coal engines.

In this country, with its steady growth in population, all kinds of quasi-public corporations have, generally speaking, reason to believe that their business will increase from year to year. There are some advantages which street railway properties have over the steam railroads, however. In many instances the latter are dependent largely upon the prosperity of a particular industry, as in the case of the coal and grain roads. It has been found that when there is a general industrial depression throughout the country the business of the railroads always falls off, whereas the electric railway, gas and electric lighting companies are but slightly affected. This is particularly true of the street railways, as in their case the income is absolutely direct, and it has been found that the earnings of these properties have increased from year to year at a ratio independent of general industrial inactivity. For these reasons electric railway,

gas and electric lighting companies have not had to go through the same stages of reorganization which took place in the case of the steam railroad companies. In many instances railroads were built for the purpose of developing the country, whereas the other class of quasi-public corporations have in the main only been built after such development, and when the earnings could be very accurately calculated. During the last two years the securities of railroad companies have suffered a severe depreciation, whereas the depreciation in the securities of electric railway, gas and electric lighting companies has been comparatively slight.

Statistics show that the average earnings per annum of electric railways are about $3,800 per mile, while the average earnings of the steam railroads from passenger traffic are only $1,700 per mile; that the average operating expenses of the electric railways are about 57 per cent. of their gross earnings, while the average operating expenses of the steam railroads are over 65 per cent. This is even true in instances where the electric and steam railways are parallel, so that they are operating under the same advantages and disadvantages. Electric railways also handle express, freight, etc., at a less rate than steam railways, the cost to the former being 21 per cent. and that to the steam roads over 48 per cent. In some instances the latter have been glad to have the electric railways take part of their local business, but in many cases the trolley lines have taken a large part of such traffic, even although the railroad has cut rates in order to meet fares charged by the trolley company. At the present time the electric railways with their long distance lines, and buffet and sleeper cars are entering into the field of long distance travel, and it will be interesting to see how far this competition will affect the steam roads.

While it is thus seen that the electric railway, gas and electric lighting companies have certain advantages over the steam railways, they also have certain advantages over each other. They are, of course, alike in that they have the same requirements as to franchises, etc., but are essentially different in certain particulars. The returns from electric railway and lighting properties are generally more quickly obtained than from gas properties. This is in one sense an advantage, but it is a disadvantage when the prospect of competition is considered. When the field of lighting was invaded by electricity, considerable apprehension was felt that the earnings of the gas com-

panies would be decreased and in some instances this was the case. At the present time, however, by the use of gas for heating and the introduction of cooking stoves, the gas companies have been able to show an increase instead of a decrease from their operations. An officer of a prominent gas company recently stated that the existence of an electric lighting plant in the same town with a gas property was no objection to the purchase of securities in the latter, and this statement has been entirely verified. Each company has its own field for operation, and from the business standpoint there is no reason why both cannot be successfully operated and pay returns upon the investment made. The ideal condition is, of course, to have the electric lighting and gas plants owned and operated by the same company. Under these conditions there is no danger of either company cutting rates and entering the field of the other, and there can be greater economies effected in general expenses. There are at present numerous plants so operating, and it has been found that there is not only a saving in the matter of salaries and rents, but that the electric light can be produced more cheaply by the use of gas engines supplied from the gas plant.

When an investment is contemplated in the bonds of an electric lighting or gas property, the matter as to whether or not these properties are located in a natural gas region should be carefully looked into. Natural gas can, of course, be delivered to the consumer at a considerably lower rate than either the electric light or manufactured gas, and if there is any reason to believe that it exists in any locality having an electric lighting or manufactured gas plant, an investment in the securities of either of the latter would always be open to attack unless the natural gas field is controlled by them. In Pittsburg the Philadelphia Company controls the traction lines, the electric lighting and both manufactured and natural gas, so that it has a complete monopoly and is not open to competition. This company delivers natural gas at a lower rate than manufactured gas, but only for the purpose of fuel, whereas the manufactured gas is used solely for lighting purposes. While the returns from the electric railways and lighting properties are more quickly obtained in many instances than from gas properties, it must be remembered that the depreciation in the case of the latter is much less than in the case of either of the former. A prominent engineer recently stated that at the end of ten years the plant of an electric lighting property is

obsolete. This means that the depreciation in a property of this character is 10 per cent. per annum, whereas the depreciation in the case of a gas plant is probably only one-third as great. It is difficult to obtain any definite figures showing the depreciation allowed in the case of a gas or electric lighting company, or the percentage which operating expenses bear to the gross earnings, because companies are loath to make public any detailed reports, since they would thus supply their competitors with valuable information. Moreover, while the rate charged for fares throughout the country is practically uniform, the rates charged for gas and electric light vary greatly, and where a gas company receives $1.40 per thousand cubic feet for gas the operating ratio is much less than where it is receiving 90 cents for the same amount.

The future of electric railway, gas and electric lighting companies is promising. These industries have not only tributary to their lines or plants an increasing population, but a population which makes increasing demands upon their facilities. With lower operating expenses resulting from improvements and inventions, there is yearly a larger surplus over gross earnings, which will not only enable these companies to pay reasonable fixed charges, but will also enable them to declare satisfactory dividends upon their shares of stock. During the last six months there has been a steady increase in the price of listed railroad bonds, which has carried them to quotations higher in some instances than those prevailing at the time of the last great speculative boom. The low rates for money, together with an exceptionally conservative spirit, have resulted in a steady absorption of this class of securities. The present ruling prices are such as to make them prohibitive to the average investor, and with returning confidence it is to be expected that there will be considerable selling of these bonds and reinvestment in securities of sound street railway and gas properties. The time is not far distant when the bonds of many public service corporations now selling on a 5 per cent. basis will be regarded as "gilt-edged," and it is doubtless true that some of the great fortunes of the future will be made by purchases of the stocks of interurban lines just as they were made by investment in railroad stocks years ago, and more recently in the stocks of city electric railway companies.